NEBRASKA AGRICULTURE

CHEMICAL USAGE

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NEBRASKA AGRICULTURAL STATISTICS SERVICE

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2000 Agricultural Chemical Usage

The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on targeted crops for the 2000 crop year. Farm and ranch operators were enumerated late in the growing season or after the farm operator had indicated that planned applications were complete. The data were compiled from the Agricultural Resources Management Study (ARMS).

Corn

Nitrogen was applied to 98 percent of the 2000 corn acreage in the 18 States surveyed. Corn growers used an average of 1.7 applications per acre while applying 77 pounds of nitrogen per treatment. In the States surveyed, 84 percent of the planted corn acreage received phosphates and potash was applied to 66 percent of the acreage.

Herbicides were applied to 97 percent of the corn acreage in 2000. Atrazine continued to be the most commonly used herbicide with 68 percent of the reported acreage being treated. It was applied at the rate of 1.00 pounds per acre.

In 2000, 29 percent of the corn acreage was treated with insecticides. Chlorpyrifos was the most commonly used insecticide, representing 4.5 million out of the total 9.8 million pounds of insecticide applied in the 18 States surveyed. It was applied at the rate of 1.05 pounds per acre.

In Nebraska, nitrogen was applied to 99 percent of the acreage, phosphates to 82 percent and potash to 22 percent. Herbicides were applied to 97 percent of the corn acreage while insecticide application covered 55 percent. There were a total of 204 usable reports.

Corn: Acreage, Fertilizer and Pesticide Applications, Selected States, 2000

State	Planted Acreage	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Area Applied
	1,000 acres	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Percent*
Iowa	12,300	95	1.5	87	74	1.0	53	74	1.0	69	100	16
Kansas	3,450	100	1.4	101	78	1.1	32	39	1.2	22	93	31
Missouri	2,850	100	1.4	106	82	1.0	56	82	1.0	70	87	20
Nebraska	8,500	99	1.9	79	82	1.0	33	22	1.0	11	97	55
South Dakota	4,300	99	1.5	63	92	1.0	36	39	1.0	21	100	15
Total [1]	73,770	98	1.7	77	84	1.1	51	66	1.0	75	97	29

[1] States included: CO, IL, IN, IA, KS, KY, MI, MN, MO, NE, NY, NC, ND, OH, PA, SD, TX, WI.

Corn: Agricultural Chemical Applications, Nebraska, 1999-2000 [1]

Agricultural Chemical	Area Applied		Applications		Rate per Application		Rate per Crop Year		Total Applied	
	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
Herbicides:	*Percent*		*Number*		*Pounds/acre*				*1,000 pounds*	
2,4-D	6	4	1.0	1.0	0.28	0.42	0.28	0.43	144	165
Acetamide		5		1.0		0.64		0.66		259
Acetochlor	20	17	1.0	1.0	1.56	1.59	1.56	1.59	2,655	2,346
Alachlor	9	5	1.0	1.0	2.09	1.71	2.09	1.71	1,550	668
Atrazine	87	80	1.0	1.0	1.01	1.06	1.10	1.11	8,286	7,497
Bromoxynil	1		1.0		0.25		0.25		27	
Clopyralid	3	8	1.0	1.0	0.12	0.12	0.12	0.12	32	78
Cyanazine	9	2	1.0	1.0	1.41	1.08	1.41	1.08	1,123	158
Dicamba	8	16	1.0	1.0	0.27	0.17	0.27	0.17	186	239
Dicamba, Dimet. salt	2	3	1.0	1.0	2.29	0.41	2.29	0.41	347	96
Dicamba, Pot. salt	4	2	1.0	1.0	0.31	0.35	0.31	0.35	113	51
Diflufenzopyr-sodium	2	3	1.0	1.0	0.91	0.16	0.91	0.16	139	38
Dimethenamid	3	5	1.0	1.0	1.34	1.03	1.34	1.03	322	443
Flumetsulam	4	8	1.0	1.0	0.04	0.04	0.04	0.04	14	29
Glyphosate	5	3	1.3	1.1	0.65	0.62	0.87	0.72	410	182
Halosulfuron	8	3	1.0	1.0	0.09	0.03	0.09	0.03	60	6
Imazapyr		2		1.0		0.002		0.002		**
Imazethapyr		6		1.0		0.02		0.02		12
Isoxaflutole	7	3	1.0	1.0	0.08	0.06	0.08	0.06	43	14
Metolachlor	39	45	1.0	1.0	1.10	1.12	1.17	1.12	3,926	4,259
Metribuzin		5		1.0		0.16		0.16		64
Nicosulfuron	13	12	1.0	1.0	0.01	0.03	0.01	0.03	13	28
Primisulfuron	6	10	1.0	1.0	0.03	0.02	0.03	0.02	15	17
Prosulfuron	6	7	1.0	1.0	0.01	0.008	0.01	0.008	5	5
Rimsulfuron	13	8	1.0	1.0	0.01	0.01	0.01	0.01	11	9
Thifensulfuron		*		1.0		0.008		0.008		**
Insecticides:										
Chlorpyrifos	4	4	1.0	1.0	1.09	0.78	1.09	0.78	345	246
Cyfluthrin	4	5	1.0	1.0	0.006	0.007	0.006	0.007	2	3
Fipronil	3	21	1.0	1.0	0.12	0.10	0.12	0.10	32	178
Methyl parathion	5	3	1.1	1.0	0.51	0.37	0.56	0.37	266	84
Permethrin	5	4	1.8	1.0	0.06	0.06	0.11	0.06	44	17
Tebupirimphos	4	5	1.0	1.0	0.12	0.14	0.12	0.14	41	57
Tefluthrin	11	12	1.0	1.0	0.08	0.09	0.08	0.09	79	95
Terbufos	4	7	1.0	1.0	1.12	1.13	1.12	1.13	392	675

* Area applied is less than one percent. ** Total applied is less than 1,000 lbs. [1] Missing data not published.

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Soybeans

Soybean producers in the 18 States surveyed applied nitrogen fertilizer to 18 percent of the area planted to soybeans. The average number of nitrogen applications per acre was 1.0 with an average application rate of 23 pounds per acre. Phosphate was applied on 24 percent of the soybean planted acreage while potash was applied to 27 percent of the planted soybean acreage.

In the 18 States surveyed, 97 percent of the soybean acreage was treated with herbicides. The most widely used herbicide was Glyphosate, applied to 62 percent of the soybean acres.

Soybean growers in the States surveyed applied insecticide to only 2 percent of the soybean acres planted. Soybean growers also reported few fungicide applications.

In Nebraska, nitrogen was applied to 30 percent of the soybean acreage, phosphates to 20 percent, and potash to only 15 percent. Herbicides were applied to 98 percent of the soybean acreage while insecticides were not reported as being applied. There were a total of 171 usable reports.

Soybeans: Acreage, Fertilizer and Pesticide Applications, Selected States, 2000

State	Planted Acreage	Nitrogen			Phosphate			Potash			Herbicide
		Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied
	1,000 acres	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*
Iowa	10,700	15	1.0	49	22	1.0	47	22	1.0	59	98
Kansas	2,950	18	1.2	16	16	1.0	34	*	*	*	94
Missouri	5,150	20	1.0	25	28	1.0	68	27	1.0	69	98
Nebraska	4,650	30	1.0	14	20	1.0	38	15	1.0	9	98
South Dakota	4,400	38	1.0	14	43	1.0	35	12	1.0	23	98
Total [1]	71,010	18	1.0	23	24	1.0	48	27	1.0	76	97

* Insufficient reports to publish data. [1] States included: AR, IL, IN, IA, KS, KY, LA, MI, MN, MS, MO, NE, NC, ND, OH, SD, TN, WI.

Soybeans: Agricultural Chemical Applications, Nebraska, 1999-2000 [1]

Agricultural Chemical	Area Applied		Applications		Rate per Application		Rate per Year		Total Applied	
	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
Herbicides:	*Percent*		*Number*		*Pounds/acre*				*1,000 pounds*	
Acifluorfen	2		1.0		0.19		0.19		16	
Alachlor	6	6	1.0	1.0	1.40	1.38	1.40	1.38	346	381
Chlorimuron-ethyl	2	3	1.0	1.0	0.01	0.004	0.01	0.004	1	1
Cloransulam-methyl		3		1.0		0.03		0.03		3
Clomazone	2		1.0		0.56		0.56		47	
Flumetsulam		3		1.0		0.04		0.04		5
Glyphosate	70	72	1.1	1.2	0.72	0.75	0.85	0.91	2,559	3,049
Imazaquin	2		1.0		0.06		0.06		4	
Imazethapyr	26	22	1.0	1.0	0.05	0.06	0.05	0.06	51	56
Metolachlor		3		1.0		0.89		0.89		107
Metribuzin	7	7	1.0	1.1	0.18	0.34	0.18	0.38	51	117
Pendimethalin	29	22	1.1	1.0	0.72	1.04	0.79	1.04	974	1,061
Sulfosate		3		1.0		0.98		0.98		158
Trifluralin	11	14	1.0	1.0	0.67	0.77	0.67	0.77	326	492

[1] Missing data not published.

Winter Wheat

Nitrogen was applied to 87 percent of the 2000 winter wheat acreage in the 16 States surveyed. Winter Wheat growers used an average of 1.5 applications per acre while applying 44 pounds of nitrogen per treatment. In the States surveyed, 54 percent of the planted winter wheat acreage received phosphates and potash was applied to 17 percent of the acreage.

Herbicides were applied to 37 percent of the winter wheat acreage in 2000. 2,4-D was the most commonly used herbicides with 13 percent of the reported acreage being treated.

In 2000, only 4 percent of the winter wheat acreage was treated with insecticides. Chlorpyrifos was the most commonly used insecticide, representing approximately 92 percent out of the total 548 thousand pounds of insecticide applies in the 16 States surveyed.

In Nebraska, nitrogen was applied to 90 percent of the acreage and phosphates to 68 percent. An insufficient number of reports were received to publish data on potash applications. Herbicides were applied to 26 percent of the acreage. There were a total of 61 usable reports.

Winter Wheat: Acreage, Fertilizer and Pesticide Applications, Selected States, 2000

State	Planted Acreage	Nitrogen			Phosphate			Potash			Herbicide
		Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied
	1,000 acres	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*	*Number*	*Pounds/acre*	*Percent*
Colorado	2,500	87	1.2	32	14	1.0	16	*	*	*	23
Missouri	1,050	96	1.7	51	76	1.0	49	84	1.0	66	51
Nebraska	1,750	90	1.4	32	68	1.0	26	*	*	*	26
South Dakota	1,350	91	1.4	35	61	1.0	30	12	1.0	8	56
Total [1]	38,070	87	1.5	44	54	1.0	35	17	1.0	49	37

* Insufficient reports to publish data. [1] States included: AR, CO, ID, IL, KS, KY, MO, MT, NE, NC, OH, OK, OR, SD, TX, WA.

Winter Wheat: Agricultural Chemical Applications, Nebraska, 1998 and 2000 [1]

Agricultural Chemical	Area Applied		Applications		Rate per Application		Rate per Year		Total Applied	
	1998	2000	1998	2000	1998	2000	1998	2000	1998	2000
Herbicides:	*Percent*		*Number*		*Pounds/acre*				*1,000 pounds*	
2, 4-D	32	12	1.0	1.2	0.44	0.25	0.44	0.32	266	66
Chlorsulfuron	3		1.0		0.01		0.01		1	
Metsulfuron-methyl	29	16	1.0	1.0	0.004	0.006	0.004	0.006	2	2
Triasulfuron	8	8	1.0	1.0	0.01	0.01	0.01	0.01	2	2

[1] Missing data not published.

Sugarbeets

Eleven sugarbeets producing States were included in the 2000 survey. Nitrogen fertilizer was applied to 98 percent of the sugarbeets acreage. The number of applications averaged 1.5 per acre with a total of 166.2 million pounds applied. Phosphate was applied to 92 percent of the acres in the States surveyed with a total of 101.4 million pounds being applied. Potash was applied to 50 percent of the sugarbeets acreage. About 58.8 million pounds of potash were applied in total.

Herbicides wer applied to 98 percent of the sugarbeets in 2000 in the 11 States surveyed. Desmedipham was the most commonly used herbicide in sugarbeets, being used on 94 percent of the acres.

Insecticides were applied to 63 percent of the 2000 sugarbeet acreage. Terbufos was the most common, applied to 41 percent of the acres. Fungicide treatments were applied to 72 percent of the sugarbeets acreage. Tetraconazole was used the most, as it was applied on 55 percent of the acreage.

In Nebraska, nitrogen was applied to 95 percent of the acreage, phosphates to 88 percent, and potash to 29 percent. Herbicides were applied to 98 percent of the acreage, insecticides to 51 percent and fungicides to 22 percent. There were a total of 51 usable reports.

Sugarbeets: Acreage, Fertilizer and Pesticide Applications, Selected States, 2000

State	Planted Acreage	Nitrogen			Phosphate			Potash			Herbicide	Insecticide	Fungicide
		Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Appli-cations	Rate Per Application	Area Applied	Area Applied	Area Applied
	1,000 acres	*Percent*	*Number*	*lbs/acre*	*Percent*	*Number*	*lbs/acre*	*Percent*	*Number*	*lbs/acre*	*Percent*	*Percent*	*Percent*
Colorado	72	98	1.4	62	79	1.0	50	38	1.0	25	98	29	56
Nebraska	78	95	1.8	69	88	1.0	47	29	1.0	14	98	51	22
Wyoming	61	97	1.9	95	97	1.2	80	42	1.2	41	87	79	*
Total [1]	1,563	98	1.5	68	92	1.1	64	50	1.1	67	98	63	72

* Insufficient reports to publish data. [1] States included: CA, CO, ID, MI, MN, MT, NE, ND, OR, WA, WY.

Sugarbeets: Agricultural Chemical Applications, Nebraska, 2000

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	2000	2000	2000	2000	2000
Herbicides:	*Percent*	*Number*	*Pounds/acre*		*1,000 pounds*
Clethodim	41	1.0	0.09	0.09	3
Clopyralid	66	1.8	0.04	0.08	4
Cycloate	17	1.0	1.72	1.72	23
Desmedipham	90	2.0	0.08	0.15	11
Ethofumesate	70	1.2	0.18	0.22	12
Phenmedipham	86	2.0	0.07	0.15	10
Sethoxydim	3	1.0	0.16	0.16	*
Triflusulfuron methyl	70	2.0	0.01	0.02	1
Insecticides:					
Terbufos	46	1.0	1.30	1.34	48

* Total applied is less than 1,000 lbs.

Pesticides: Common Names and Trade Names

HERBICIDES

Common Name	Trade Name	Common Name	Trade Name
2,4-D	several	Flumetsulam	Broadstrike
Acetamide	Axiom	Glyphosate	Ranger, Rattler, Rodeo, Roundup
Acetochlor	Harness, Topnotch	Halosulfuron	Battalion, Permit
Acifluorfen	Blazer, Tackle	Imazapyr	Lightning, Topsite
Alachlor	Lasso	Imazaquin	Scepter
Atrazine	AAtrex, Atrazine	Imazethapyr	Pursuit
Bromoxynil	Brominal, Buctril	Isoxaflutole	Balance
Chlorimuron-ethyl	Classic	Metolachlor	Dual
Chlorsulfuron	Finesse, Glean, Telar	Metribuzin	Axiom, Lexone, Sencor
Clethodim	Select	Metsulfuron-methyl	Ally, Escort
Cloransulam-methyl	FirstRate	Nicosulfuron	Accent
Clomazone	Command	Pendimethalin	Prowl
Clopyralid	Reclaim, Stinger	Phenmedipham	Spin-Aid
Cyanazine	Bladex, Conquest, Cycle, Extrazine	Primisulfuron	Beacon
Cycloate	Ro-Neet	Prosulfuron	Peak
Desmedipham	Betamix, Progress	Rimsulfuron	Basis
Dicamba	Banvel	Sethoxydim	Poast
Dicamba, Dimethlamine salt	Distinct	Sulfosate	Touchdown
Dicamba, Potassium salt	Marksman	Thifensulfuron	Pinnacle
Diflufenzopyr-sodium	Distinct	Triasulfuron	Amber, Rave
Dimethenamid	Frontier, Guardsman	Trifluralin	Treflan, Trific, Trilin
Ethofumesate	Progress	Triflusulfuron-methyl	UpBeet

INSECTICIDES

Common Name	Trade Name	Common Name	Trade Name
Chlorpyrifos	Lorsban, Dursban	Permethrin	Ambush, Pounce
Cyfluthrin	Baythroid	Tebupirimphos	Aztec
Fipronil	Regent	Tefluthrin	Force
Methyl parathion	several	Terbufos	Counter

Data contained in this publication are a summary of selected States chemical usage data. A complete copy of USDA's *Agricultural Chemical Usage - Field Crops* release can be found on the internet at http://www.usda.gov/nass/ dated May 16, 2001.

Biotechnology Varieties

The National Agricultural Statistics Service conducts the March Agricultural Survey in all States each year. Randomly selected farmers across the United States are asked what they intend to plant during the upcoming growing season. Questions include whether or not farmers intend to plant corn or soybeans that, through biotechnology, is resistant to herbicides, insects, or both. The biotechnology (biotech) questions were asked for the first time in March 2000.The States published individually in the following tables represent 82 percent of all corn planted acres and 89 percent of all soybean planted acres. Conventionally bred herbicide resistant varieties were excluded. Insect resistant varieties include only those containing *bacillus thuringiensis* (Bt). Stacked gene varieties include those containing biotech traits for both herbicide and insect resistance.

Corn for Grain: Biotechnology Varieties by State and United States, Percent of All Corn Planted, 2000-2001

State	Insect Resistant (Bt)		Herbicide Resistant		Stacked Gene Varieties		All Biotech Varieties	
	2000	2001	2000	2001	2000	2001	2000	2001
	Percent							
Illinois	13	11	3	3	1	*	17	14
Indiana	7	5	4	5	*	1	11	11
Iowa	23	20	5	6	2	2	30	28
Kansas	25	25	7	10	1	2	33	37
Michigan	8	7	4	7	*	1	12	15
Minnesota	28	24	7	8	2	3	37	35
Missouri	20	19	6	8	2	2	28	29
Nebraska	24	18	8	6	2	1	34	25
Ohio	6	6	3	3	*	1	9	10
South Dakota	35	29	11	14	2	3	48	46
Wisconsin	13	11	4	4	1	2	18	17
Other States [1]	10	12	6	7	1	1	17	20
US	18	16	6	7	1	1	25	24

* Data rounds to less than 0.5 percent. [1] Other States includes all other States in the Corn estimating program.

Soybeans: Biotechnology Varieties by State and United States, Percent of All Soybeans Planted, 2000-2001

State	Herbicide Resistant Only		All Biotech Varieties	
	2000	2001	2000	2001
	Percent			
Arkansas	43	51	43	51
Illinois	44	59	44	59
Indiana	63	72	63	72
Iowa	59	62	59	62
Kansas	66	80	66	80
Michigan	50	61	50	61
Minnesota	46	55	46	55
Mississippi	48	61	48	61
Missouri	62	70	62	70
Nebraska	72	75	72	75
North Dakota	22	36	22	36
Ohio	48	60	48	60
South Dakota	68	77	68	77
Wisconsin	51	63	51	63
Other States [1]	54	64	54	64
US	54	63	54	63

[1] Other States includes all other States in the Soybean estimating program.

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